

(19) 世界知的所有権機関
国際事務局



(43) 国際公開日
2004年7月1日 (01.07.2004)

PCT

(10) 国際公開番号
WO 2004/055775 A1

(51) 国際特許分類: G09G 5/00
(21) 国際出願番号: PCT/JP2003/015977
(22) 国際出願日: 2003年12月12日 (12.12.2003)
(25) 国際出願の言語: 日本語
(26) 国際公開の言語: 日本語
(30) 優先権データ:
特願 2002-362666
2002年12月13日 (13.12.2002) JP

(71) 出願人(米国を除く全ての指定国について): ソニー株式会社 (SONY CORPORATION) [JP/JP]; 〒141-0001 東京都品川区北品川6丁目7番35号 Tokyo (JP).

(72) 発明者; および

(75) 発明者/出願人(米国についてのみ): 近藤 哲二郎 (KONDO, Tetsujiro) [JP/JP]; 〒141-0001 東京都品川区北品川6丁目7番35号 ソニー株式会社内 Tokyo (JP). 朝倉 伸幸 (ASAKURA, Nobuyuki) [JP/JP]; 〒141-0001 東京都品川区北品川6丁目7番35号 ソニー株式会社内 Tokyo (JP). 西片 文晴 (NISHIKATA, Takeharu) [JP/JP]; 〒141-0001 東京都品川区北品川6丁

目7番35号 ソニー株式会社内 Tokyo (JP). 守村 卓夫 (MORIMURA, Takuo) [JP/JP]; 〒141-0001 東京都品川区北品川6丁目7番35号 ソニー株式会社内 Tokyo (JP). 平泉 啓 (HIRAIZUMI, Kei) [JP/JP]; 〒141-0001 東京都品川区北品川6丁目7番35号 ソニー株式会社内 Tokyo (JP). 長野 宏介 (NAGANO, Hirotsuke) [JP/JP]; 〒141-0001 東京都品川区北品川6丁目7番35号 ソニー株式会社内 Tokyo (JP). 山元 左近 (YAMAMOTO, Sakon) [JP/JP]; 〒141-0001 東京都品川区北品川6丁目7番35号 ソニー株式会社内 Tokyo (JP).

(74) 代理人: 山口 邦夫, 外(YAMAGUCHI, Kunio et al.); 〒101-0047 東京都千代田区内神田1丁目15番2号 平山ビル5階 Tokyo (JP).

(81) 指定国(国内): CN, KR, US.

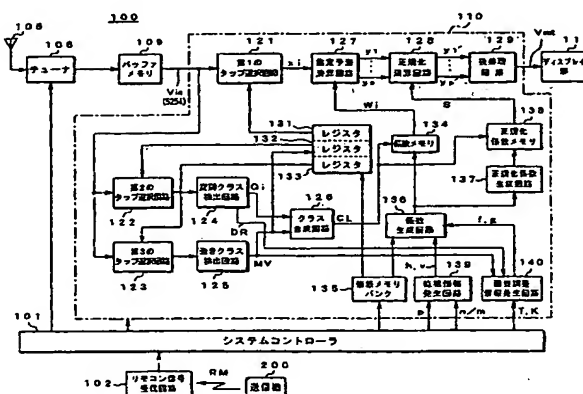
(84) 指定国(広域): ヨーロッパ特許(AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

添付公開書類:
— 国際調査報告書

[続葉有]

(54) Title: IMAGE SIGNAL PROCESSING APPARATUS, IMAGE SIGNAL PROCESSING METHOD, PROGRAM FOR PRACTICING THAT METHOD, AND COMPUTER-READABLE MEDIUM IN WHICH THAT PROGRAM HAS BEEN RECORDED

(54) 発明の名称: 画像信号処理装置、画像信号処理方法、その方法を実行するためのプログラム、およびそのプログラムを記録したコンピュータ読み取り可能な媒体



108...TUNER
109...BUFFER MEMORY
121...FIRST TAP SELECTION CIRCUIT
127...ESTIMATION/PREDICTION CALCULATING CIRCUIT
128...NORMALIZATION CALCULATING CIRCUIT
129...POST-PROCESSING CIRCUIT
111...DISPLAY PART
131...REGISTER
132...REGISTER
133...REGISTER
134...COEFFICIENT MEMORY
138...NORMALIZATION COEFFICIENT MEMORY
137...NORMALIZATION COEFFICIENT GENERATOR CIRCUIT
122...SECOND TAP SELECTION CIRCUIT
124...SPATIAL CLASS DETERMINING CIRCUIT
123...THIRD TAP SELECTION CIRCUIT
125...MOTION CLASS DETERMINING CIRCUIT
126...CLASS COMBINING CIRCUIT
136...COEFFICIENT GENERATOR CIRCUIT
135...INFORMATION MEMORY BANK
139...PHASE INFORMATION GENERATOR CIRCUIT
140...IMAGE QUALITY ADJUSTMENT INFORMATION GENERATOR CIRCUIT
101...SYSTEM CONTROLLER
102...REMOTE CONTROL SIGNAL RECEIVER CIRCUIT
200...TRANSMITTER

(57) Abstract: An image signal processing apparatus that improves the qualities of zoomed images. An image signal processing part (110) produces, based on an input image signal (Vin), an output image signal (Vout) for displaying a zoomed image in which the image enlargement ratio continuously varies with an arbitrary point that is designated by the user being centered. The pixel data of the output image signal (Vout) are calculated by use of coefficient data (Wi) generated by a coefficient generator circuit (136). The coefficient generator circuit (136) produces the coefficient data (Wi) not only based on phase information of the pixels (h, v) but also based on resolution adjustment information (f) and noise suppression degree adjustment information (g) generated, based on an image enlargement ratio (T), a variation rate of the image enlargement ratio (K) and image characteristic information (DR, MV), by an image quality adjustment information generator circuit (140)

[続葉有]



2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

(57) 要約:

この発明は、ズーム画像の画質向上を図ることができる画像信号処理装置に関する。画像信号処理部(110)は、入力画像信号(Vin)に基づいて、ユーザによって指定される任意の点を中心として画像の拡大率が連続的に変化したズーム画像として表示するための出力画像信号(Vout)を生成する。前記出力画像信号(Vout)の各画素データは、係数生成回路(136)が生成する係数データ(Wi)を用いて演算される。前記係数生成回路(136)は、各画素の位相情報(h, v)だけでなく、画像の拡大率(T)、画像の拡大率の変化速度(K)及び画像の特徴情報(DR, MV)に基づいて画質調整情報発生回路(140)が発生する解像度調整情報(f)及びノイズ抑圧度調整情報(g)にも基づいて、前記係数データ(Wi)を生成する。

INTERNATIONAL SEARCH REPORT

National application No.

PCT/JP03/15977

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ G09G5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl⁷ G09G5/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2004
Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 02/52539 A1 (SONY CORP.), 04 July, 2002 (04.07.02), Full text; all drawings & JP 2002-196737 A & EP 1267322 A1 & CN 1406371 A & US 2003/63216 A1	1-18
A	WO 01/97510 A1 (SONY CORP.), 20 December, 2001 (20.12.01), Full text; all drawings & JP 2002-223374 A & JP 2002-223420 A & US 2003/122967 A1	1-18
A	JP 7-67031 A (SONY CORP.), 10 March, 1995 (10.03.95), Full text; all drawings (Family: none)	1-18

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search
11 March, 2004 (11.03.04)

Date of mailing of the international search report
30 March, 2004 (30.03.04)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/JP03/15977

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CD-ROM of the specification and drawings annexed to the request of Japanese Utility Model Application No. 62366/1993 (Laid-open No. 32634/1995) (Fujitsu General Ltd.), 16 June, 1995 (16.06.95), Claim 1; Par. Nos. [0007], [0009] (Family: none)	1-18
P,A	EP 1326436 A2 (SONY CORP.), 09 July, 2003 (09.07.03), Claim 7 & JP 2003-195843 A & JP 2003-198989 A & CN 1438802 A & US 2003/210347 A1	1-18